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SOME PROBLEMS OF MORPHOLOGY IN THE LIGHT OF V. I. LENIN'S
WORK "MATERIALISM AND EMPIRIOCITICISM"

By M. G. Prives

-- USSR --

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SOME PROBLEMS OF MORPHOLOGY IN THE LIGHT OF V. I. LENIN'S
WORK "MATERIALISM AND EMPIRIOCITICISM" (1)

[Following is the translation of an article by
M. G. Prives entitled "Nekotoryye Voprosy Mor-
fologii v Svete Truda V. I. Lenina "Materialism
i Empiriokrititsizm"(English version above) in
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Chair of Normal Anatomy (Head -- Prof. M. G. Prives)
of the First Leningrad Medical Institute imeni Academician
I. P. Pavlov

Submitted to the editorial office 11 April 1959

The philosophical works of V. I. Lenin have exerted
an immense influence on the development of science in gener-
al and biology in particular. Of special significance in
this respect is V. I. Lenin's book "Materialism and Empirio-
criticism" - a classical work in the tradition of creative
materialism. In this work, V. I. Lenin shattered what were
at that time the most modern forms of philosophical idealism,
and created the theoretical basis for a new type of party.

In exposing "physical" and "physiological" idealism,
V. I. Lenin summarized the new successes of natural science,
achieved since the time of F. Engels, and in certain respects
expanded his "Dialectics of Nature." Where F. Engels had
created the labor theory of the origin of man, V. I. Lenin
developed the materialistic theory of reflection. As a re-
sult, Lenin's book became a philosophical encyclopedia of
Marxism, which inaugurated the new Leninist era of Marxist
philosophy.

In view of the fact that the general philosophical and
political importance of the aforementioned work of V. I. Lenin
has been adequately characterized in the general and special
press, we shall limit ourselves, in accordance with the spec-
ial character of our journal, to an analysis of certain pro-
blems relating to morphology and touched upon in "Material-
ism and Empiriocriticism."

1 Report at the meeting of the Leningrad Society of Anatomists,
Histologists, and Embryologists.

The problems of anatomy, directly or indirectly treated in Lenin's book, are concentrated around the problem of the correlation of matter and consciousness. This problem is related to the understanding of the structure of the nervous system and the organs of sensation. V. I. Lenin wrote that "...consciousness is the highest product of matter organized in some special manner" (V. I. Lenin, "Materialism and Empirio-criticism," Moscow, 1940, page 31).

(2) Hirtl, in his time, defined anatomy as a science of organization. Hence we derive one of the basic tasks of anatomy -- the study of this special method of the organization of matter, of which consciousness is the highest product. The directions for this line of study were pointed out by V. I. Lenin in his theory of reflection. It is well known that the essence of this theory boils down to the fact that the objective, real world which exists outside our consciousness is reflected in it subjectively. Consequently, anatomy and physiology must discover the mechanisms through which this process of reflection takes place. This process is, first of all, effected by the organs of sensation, through which the objectively existing world is reflected in our consciousness. In this connection, V. I. Lenin wrote: "At each stage there takes place in the process of sensation a transformation of the energy of external stimulation into a fact of consciousness" (page 28). I. P. Pavlov discovered the mechanism for this transformation and named it the analyzer.

V. I. Lenin states that "sensation depends on the brain, nerves, retina, etc." (page 31), i. e., on the nervous system: 1) the peripheral nerve endings (in this case the retina), the peripheral nervous system (nerves), and the central nervous system (brain). An identical structural design for the analyzer is given by I. P. Pavlov who separated it into three parts: 1) the peripheral section -- receptor, 2) the guiding section -- conductor, 3) the central terminal -- cortex. Since sensation and feeling originate in the brain rather than in the retina, an organ of sensation consists of the entire analyzer and not only the peripheral section of the analyzer (eye, ear, etc.).

Thus, the anatomical concept of an organ of sensation under the influence of Lenin's theory of reflection and Pavlov's physiology. This concept was no longer limited to the receptor, but extended to the entire analyzer.

On the basis of Lenin's theory of reflection and the use of the methods of dialectical and historical materialism, modern anatomy and physiology have shown that two real leaps

(2)

Henceforth I quote from this edition. -- M. P.

can be observed in the evolutionary process of various forms of reflection (N. I. Grashchenkov, 1958). The first consists of the leap from the matter or the phenomena of the external world -- existing objectively and outside of our consciousness -- to sensation which is at the same time subjective and a physiologically objective reflection of matter. The second consists of the leap from sensation to consciousness, i. e., to thought processes. The transformation of the energy of external stimulation takes place in the receptor, a transfer of neural impulses from the periphery to the center is effected in the conductor, and the neural process is transformed into a fact of consciousness in the cortical end of the analyzer. This is the origin of a sensation, i. e. (according to V. I. Lenin), the transformation of the energy of external stimulation into a fact of consciousness. The above constitutes the sensory form of reflection, effected by the analyzers. As a result of the cortical endings in the cortex, a higher analysis and synthesis takes place, and there originates a concrete, graphic thinking, which, according to I. P. Pavlov, constitutes the first signal system of actuality. In this process the entire cortex represents the aggregate of the cortical analyzer endings: the synthetic analyzer.

The morphologists, as well as the physiologists, also played an important role in the analysis by natural science of the first leap. Thus, in recent decades tremendous progress has been made in the study of receptors (B. I. Lavrent'ev, B. A. Dolgo-Saburov, V. M. Godinov, T. A. Grigor'yeva, N. V. Kolosov, G. F. Ivanov, I. F. Ivanov, N. V. Kolesnikov, V. V. Kupriyanov, A. A. Smirnov, etc.); the structure of the peripheral nervous system (the V. N. Shevchuchenko -- A. N. Maksimenkov school, M. A. Sreseli, Ye. M. Margorin, etc., the V. P. Volrob'yev -- R. D. Sinel'nikov school, A. A. Otelin, F. A. Volynskiy, A. A. Shabadash; V. N. Ternovskiy, etc.); the conducting pathways of the spinal cord and brain (V. M. Bekhterev, P. P. D'yakonov, A. A. Deshin, etc.); the structure of the cortex of cerebral hemispheres (works of the Moscow Brain Institute -- I. I. Sarkisov, I. I. Filimonov, I. I. Polyakov, of the Leningrad Brain Institute -- L. Ya. Pines, G. Z. Levin); and the evolution of analyzers (Ya. A. Vinnilov, etc.).

A great contribution to the morphology of the nervous system was made by A. A. Zavarzin, whose investigations in the field of the nervous system were directly influenced by V. I. Lenin's work, "Materialism and Empiriocriticism." Lenin's influence was particularly manifest in A. A. Zavarzin's special report on "The Leninist Theory of Reflection and the Structure of the Cerebral Cortex."

The second leap -- from sensation to thought -- is still in need of further elucidation. Consciousness and thought consist not only of sensations induced by matter, but also of complex subjective states conditioned by the social environment, the individual's upbringing, ideology, etc. These subjective states are formed under the continuous influence of the objective social and biological milieu with which the human being interacts and which he cognizes and alters according to his needs.

Man recognizes himself as a social-historical personality, and, in contrast to the animals which possess only the sensory form of reflection, man possesses thought which has a material embodiment in the form of language: man thinks through spoken and written words. As a result of language, man acquires the capacity to engage in higher forms of reflection by means of abstract, generalized thinking, which, according to I. P. Pavlov, constitutes the second signal system of reality. Such thinking constitutes the abstract-logical form of reflection.

The anatomical substrata of the second signal system consist of the cortical endings of the speech analyzers (acoustical optical and motor), the entire cortex of the cerebral hemispheres, and, in particular, its superficial layers, which are composed of an immense number (several billion) of neural cells with short processes contacting other cells in every direction. As a result of this arrangement, the cerebral cortex has an unlimited capacity for making associations and generalizations. These superficial layers of the cerebral cortex originated ~~were~~ the last to develop, and became particularly developed in human beings. In contrast to the animals, in man there are two forms of reflection: 1) sensory: concrete, graphic thinking -- the first signal system, present also in animals, and 2) abstract-logical: abstract-generalized thought, i. e., thought by means of language -- the second signal system, present in humans only. On the whole, the nervous system, which I. P. Pavlov characterizes as an instrument for balancing the organism and its environment, appears in Lenin's reflection theory as an instrument for reflecting the objective world in our consciousness; the brain appears as the primary organ of this process of reflection. This characterization of the nervous system and its highest component, the brain, is wholly from Lenin's theory of reflection.

The Struggle between Materialism and Idealism in Morphology

In his book "Materialism and Empiriocriticism" V. I. Lenin subjected to severe criticism Machism and its varieties

-- empiriocriticism, empiriomonism, and empiriosymbolism, as well as neo-kantianism, pragmatism, positivism, and other "isms". Thus, he destroyed the entire "machade" of the reactionary philosophy of revisionism. He demonstrated the methods by which various forms of philosophical idealism, could be combated, and this is of help to us at the present time.

At the present time, western bourgeois philosophy is characterized by various idealistic trends -- pragmatism, instrumentalism, existentialism, semantic philosophy, personalism, neopositivism, neotomism, etc.

Among the trends, pragmatism, an American variant of the subjective idealistic philosophy, is particularly widespread. Since it is becoming more and more difficult to defend the bourgeois order openly, pragmatism attempts to substantiate the possibility of "reconciling" capitalism and communism. At the same time, instead of stressing the struggle between materialism and idealism, pragmatism strives to effect a reconciliation between the two philosophies. With the intention of destroying materialism, an attempt is made to present pragmatism as "a neutral teaching," which retains the advantages of materialism and idealism while eliminating their shortcomings. This new "materialistic-idealistic" philosophy, seemingly belonging to no Party, is in reality an ideology of the exploiting classes.

V. I. Lenin stresses the fact that the ideal of withholding allegiance from all parties is a bourgeois concept, while the party spirit is a socialist idea.

One of the important premises of Lenin's book "Materialism and Empiriocriticism" is the principle of the party spirit in philosophy. "The latest philosophy," wrote V. I. Lenin, "is just as conscious of party partisanship as philosophy was two thousand years ago. The rival parties...are materialism and idealism" (page 246). In our time, just as fifty years ago, revisionism is again trying to prove the "obsolescence" of the traditional division of all philosophical teachings into two camps and preaches a nonpartisan type of philosophy. Thus, Fishli, in his book "Materialism and Positivism Today" (1953), says that scientific facts are the same for all classes of society. It is true that scientific facts are indeed the same for all classes of society, but their interpretation and utilization are different under different forms of society and different ideologies. The problem of race serves as a striking illustration of this fact in the field of anatomy. For example, the indubitable fact that there exist variations of certain grooves and convolutions of the cerebrum, especially the simian sulcus, is regarded by objective scientists as a manifestation of individual mutability. But by racists, it is regarded as evidence of the

existence of a lower race.

At the 65th Conference of American Anatomists in 1952, Cobb submitted a report on the Joining of Cranial Commissures in White-skinned and Dark-skinned People. This racist posing of a problem differs from the procedure of objective science, which finds no correlation between cranial commissures and the color of the skin. It is also known that blood has the same composition in all peoples; however, in certain African colonies, blood taken from Negroes and Europeans for the purpose of transfusion is kept in containers with different labels -- black and white. The only difference between one kind of blood and another is the color of the labels on the jars.

Thus, it is essential that the analysis of all scientific facts, including anatomical ones, be based on the Leninist principle of the partisan character of philosophy. Pragmatism must be combatted as a movement which aims at refuting this principle.

Pragmatism lies at the basis of bourgeois theories of morphology. These theories relate, first of all, to the general view of the organism. For example, there exists a special view of the organism, "organicism," according to which the structure of an organism is both material and spiritual. As a reflection of pragmatism, organicism aims at reconciling materialism and idealism in our idea of an organism.

Another trend, "wholism," accepts the "wholeness" of the organism. But according to the wholists, the unification of the organism into one entry is not effected by means of neurohumoral regulation, but through a special wholistic factor, a particular, specific nonmaterial energy.

The author of this "theory" is not a scientist, but a politician: General Smuts, the former prime minister of the Union of South Africa. It was General Smuts' intention to find a justification for the existence of the British colonial empire in the analogy of the structure of the organism. Just as the body organs are united in a single organism by means of a wholistic factor, so the English dominions and colonies are cemented into a "united" empire by means of the British Crown. But if a crown is an entirely material phenomenon, the wholistic factor represents only a myth. As a result, wholism accepts the wholeness of an organism, but introduces a mystic factor to explain its unity.

In regard to such "organicisms" and "wholisms," V. I. Lenin wrote: "Behind the heap of new terminological tricks ...we find always and without exception two basic lines, two basic trends in the solution of philosophical problems. The source ... of errors .. lies in the fact that behind the

facade ... of verbal tricks these two basic tendencies are overlooked...." (page 230).

A number of other idealistic "theories" touch on the problem of the localization of thinking. In his book "Materialism and Empiriocriticism," V. I. Lenin devoted a special chapter to this question, which he appropriately entitled: "Does man think with his brain." This question is still a vitally important one at the present time, for the bourgeois literature advances the view that the process of thinking is not effected by the brain alone.

Thus, the American philosopher Dewey, the leader of the pragmatic movement, asserts that "legs and hands, apparatus, and various devices are as much a part of thinking as the brain."

In his labor theory of the origin of man, Engels also stated that "the hand teaches the head, and the head teaches the hand." But here he had in mind the interactions of these parts of the body on each other in the process of historical development. This notion has nothing in common in the pragmatism, which regards not only the brain, but also other organs, as part of the thinking apparatus.

Eigar, another philosopher and scientist, in his book "Contribution to the Theory of a Living Organism" writes that "all cells possess reason or intellect and each cell is capable of creating thought."

In the United States, Eigar's book is advertised as a species of "teleological dialectics," which allegedly represents a successful combination of dialectical materialism and teleology. In reality, Eigar goes even further than Virchow: Virchow's vitalism endowed cellular areas with some special vital force, while the neovitalism of Eigar endows each cell with the ability to think. This is an instance of sui generis psychovitalism or panpsychism which V. I. Lenin criticized.

Finally, Bauer (1940) regards the tissue structure of the large hemispheric cortex as a certain "Grau" -- a homogeneous gray mass -- in which the cells represent only local "condensations" of this Grau. Bauer does not accept the special organization of living matter established by science for the cerebral cortex.

Thus, science is reduced to the negation of the specific structure of neural tissue and the special organization of matter which produces consciousness. In combating these manifestations of idealism, we are aided by Lenin's words, already cited above, which state that consciousness is the highest product of specially organized matter.

The majority of bourgeois scientists have given the correct reply to V. I. Lenin's question, "Does man think with

his brain?" But even in this area, there are many differences of opinion in regard to the integration level of the organism, the localization of thought, and its concrete anatomic substrata.

In this connection it is necessary to pay particular attention to the so-called center-encephalic theory developed by Penfield and Jasper (1938-1956), which in recent years has received, and continues to receive, widespread recognition abroad. The essence of the center-encephalic theory boils down to the following. A special system of neurons is situated in the upper section of the brain stem which symmetrically connects the reticular formation or reticular substance of the brain stem (substantia reticularis) with any zone of the cerebral cortex. The streams of excitation from the cortex and back converge at this point, for this is alleged to be the center of the brain (hence the name of the system -- center-encephalic). Thus, the concept of the center-encephalic system includes the substantial reticularis of the brain stem and its higher section -- the diencephalon (thalamus opticus). The center-encephalic system regulates the entire higher nervous activity and represents the anatomic substrata of the higher forms of innervation, thought, and speech; the cerebral cortex (its analytical-synthetic activity) stands in a subordinate, purely executive relationship to the above-mentioned center. It is necessary to note that the latest studies of prominent western electrophysiologists and neurologists served as material (Penfield, Jasper, Megui, Adrian, Moruzzi, Morrison, Dempin, Bremer, Fessar, Lindley, Hess, Walter, etc.) for the creation of the theory of the center-encephalic system. A number of studies were carried out directly on a live person during operations on the brain (Penfield, Cushing, Forster, etc.); these studies are therefore of great value. The facts elicited by these scientists are of considerable interest to science. They reveal more profoundly the function of the subcortical formations and the reticular substance of the brain stem which, until recently, had attracted relatively little attention. However, the concept built on these facts -- according to which consciousness and thought are localized in the center-encephalic system -- is methodologically erroneous.

The foreign opponents of the I. P. Pavlov physiological teaching wish to "lower" the integration level from the higher stage of the brain, the cortex, to the lower one, the subcortical centers. In this way they hope to destroy the methodological basis of Pavlov's physiology, and, consequently, the natural - scientific basis of dialectical materialism. But this attempt is being carried out with inferior resources, for the facts contradict the theory. In the

first place, it was I. P. Pavlov's position that the cerebral hemisphere cortex always functions in the closest mutual contact with the subcortex. Pavlov even placed the problem of the interrelation of the cortex and subcortex among the three scientific problems in need of solution. Pavlov gave priority to the cortex and not to the subcortex, although he was aware of the close interaction of the two. In the second place, substantia reticularis is too plainly constructed to be able to effect the complex function of the higher nervous activity. This has been acknowledged by foreign scientists -- Lashley (1952), Bremer (1954), etc. Finally, in the process of evolution, it has not been the substantia reticularis which has progressed the furthest, but the cerebral cortex which covers the brain stem like a cloak. Consequently, it is anti-evolutionary to consider the substantia reticularis as the higher level of integration, a fact acknowledged by some bourgeois scientists, e. g., Stanley Cobb (in his report "Nature and the Localization of Consciousness: delivered at a symposium in the United States in 1951). Even Penfield himself admits that the center-encephalic system is a hypothetical concept. Therefore, all the proponents of the center-encephalic system theory are open to V. I. Lenin's stricture that the "make a fatal leap" into psychology without factual material.

The Penfield theory of the center-encephalic system revived Freudianism -- the teaching of the leading role in human behavior of the instincts most closely connected with the activity of the subcortical centers. At a symposium recently held in the United States on the problem of the instincts, there emerged a new trend in Freudianism -- neo-Freudianism (the school of Conrad Lorents).

Neo-Freudianism purports to explain the origin of society, morality, and religion, and is thus made use of in sociology and philosophy. Under these circumstances the philosophy of pragmatism, discussed above, found its reflection in the tendency to "reconcile" Freudianism with the physiological teaching of I. P. Pavlov.

Thus, in 1957 in Freiburg an ideological congress was held which was dedicated to the 100th Anniversary of the birth of Freud. At this congress the question "Freud or Pavlov?" was posed, and isolated attempts were made to reconcile their views.

From the standpoint of anatomy and physiology, it is essential to combine the study of the activity of the cortex and the subcortical centers, for they are the two most important parts of the indivisible brain (pointed out by I. P. Pavlov himself). As a result, the "combining" of Pavlov and

Freud is impossible from the philosophical point of view.

The physiological teaching of I. P. Pavlov regards the nervous system as an instrument for balancing the organism and its environment. According to this teaching, the determining role in the development and activity of the nervous system is played by external stimuli which issue from the objective, real world existing independently of our consciousness. This teaching represents the natural scientific basis of the Leninist theory of reflection. V. I. Lenin had good reasons for his high opinion of I. P. Pavlov.

Freudianism, on the other hand, represents a conception of the nervous system whereby the determining importance of environmental factors in its activity is negated. The nervous system, according to the Freudian view, functions spontaneously on the basis of internal, inherent mechanisms, independent of the environment. This position represents a manifestation of physiological idealism.

In his time, V. I. Lenin shattered the physiological idealism of Muller -- a variety of machism. Today, Neo-Freudianism, which has received ideological support from the Penfield theory of the center-encephalic system, deserves the same fate.

The fact that we are faced here with the struggle between idealism and materialism has been obscured by the reconciling tendency in the spirit of the philosophy of pragmatism. But here V. I. Lenin can also help us to find our way. He writes of these species of reconciliations: "They take a piece of agnosticism, add a tiny bit of idealism from Mach, combine it with a bit of dialectic materialism from Marx, and prattle that this hodge podge represents the development of Marxism" (page 127).

In regard to the revisionists of Pavlovian physiology who attempt to reconcile it with the neo-Freudian modern manifestations of physiological idealism, one can say that they take a piece of Freudiansm and a tiny bit of idealism from Penfield combine it with a piece of Pavlov's physiological teaching. They then prattle that this hodge podge actually represents the development of the science of the brain.

As an off-spring of the physical idealism exposed by V. I. Lenin, there exists in modern biology a so-called biological idealism which has a direct relationship to morphology.

Biological idealism, representing a crisis in theoretical biology, basically constitutes the same phenomenon as physical idealism, representing the crisis in theoretical physics elucidated by V. I. Lenin in his "Materialism and Empiriocriticism" (L. Sh. Davitashvili, 1959). Biological

idealism is expressed in the distortion of evolutionary teaching (psycholamarkism, mechanolamarkism, neo-Darwinism), or even in its negation (U. Batson, 1914; G. Nielson, 1935, 1938, etc.). It attacks Darwinism as a materialistic teaching of the historical development of organisms, and this attack necessarily affects the treatment of morphological problems by the supporters of this trend.

In the field of comparative anatomy, there is a movement directed against the biogenetic laws; in its place something contrary is advanced under various names -- pedomorphosis, pedomorphosis, proterogenesis, etc. (paleontologist O. Shindewolf, zoologist -- embryologist G. De-Beer, etc.). The essence of these "theories" can be reduced to the acceptance of a theory of development which proceeds not from simple to the complex, but, conversely, from the complex to the simple; consequently, evolution proceeds not in a forward but in a backward direction. These "theories" aim at undermining Darwinism, as a materialistic basis of evolution. They are opposed by Soviet evolutionary morphology (A. N. Severtsov, B. S. Matveyev, V. G. Kas'yanenko, etc.).

In the field of anthropology, there is a tendency to reconcile science and religion (pragmatism), a sui generis "religious anthropology." Since it is impossible to deny the scientific facts of the origin of man, they are fully retained, but, at the same time, made to conform with the Bible. Thus, in the textbook on paleoanthropology "The First Human Beings" (1951), written by Professor of the Catholic Institute Bergounioux and Glory, it is stated that man originated from an ape like ancestor into whom God had breathed a soul. The anthropogenesis is presented in full correspondence with scientific ideas of evolution, but the emergence of man, beginning with the Pithencanthropus, is treated as the completion of Divine creation. Man emerges at the very beginning already endowed with all his spiritual attributes -- speech, thought, law, property, morality, religion, and art. As proof of this theory, there are cited, e. g., the discoveries of a large number of skulls in the Chzhoukoudayan caves, etc., which, according to de-Breil (1952), attest to the "worship of skulls," and, consequently, to the worship of holy family images, the worship of ancestors, ritual cannibalism, and warfare.

Thus, human nature is asserted to be constant, and the specific evolution of man and the influence of social factors on this evolution are essentially negated. This "religious anthropology" is opposed by Soviet anthropology, which is based on the principles of Soviet creative Darwinism and the labor energy theory of F. Engels (V. P. Bunak, M. A. Gremyatskiy, V. V. Ginzburg, etc.).

In the field of human anatomy, a marked idealistic distortion of the evolutionary teaching has emerged in the form of finalism. Finalism is the belief that the evolution of the organic world does not depend on the interrelations between the organism and the environment, but is predetermined by an all-powerful Creator who directs it along a straight line toward a definite goal, or final end.

The well-known anatomist Rouviere (1948) in his book "Life and Finality" develops the finalistic concept of evolution, and asserts that man constitutes the basic goal of the evolutionary process. Rouviere had earlier stated that Darwin himself was a finalist. However, in 1942 the French biologist E. Rabaud called Rouviere a "witty jester."

With all due respect to the outstanding work of Rouviere in the field of human anatomy -- in particular in the anatomy of the lymphatic system -- Soviet anatomists cannot share the finalistic form of his philosophical ideas. Soviet anatomists (D. M. Golub, B. A. Dolgo-Saburov, D. A. Zhdanov, S. I. Kasatkin, etc.) firmly maintain their adherence to Soviet creative Darwinism as a natural-science basis of Marxism.

In the field of histology, "biological idealism" has manifested itself in the fact that Western histologists investigated tissues in isolation from evolution, apart from their philogenetic aspect. The same applies to their teaching about cells. This metaphysical approach runs counter to Soviet evolutionary histology (A. A. Braun, V. G. Yeliseyev, L. N. Zhinkin, A. A. Zavarzin, N. I. Zazybin, Z. S. Katsnel'son, A. G. Knoppe, P. V. Makarov, V. P. Mikhaylov, A. N. Studitskiy, N. G. Khlopin, S. I. Shchelkunov, etc.).

A great deal of attention is also being given in the Soviet Union to the teaching on the determination of tissues, which is the principle of dialectical materialism concretely applied to the field of histological determinism.

A conference dedicated to the memory of A. A. Zavarzin was recently held in Leningrad on the problem of determinism in histology and embryology. Its participants included P. G. Svetlov, S. I. Shchelkunov, A. G. Knoppe, V. P. Mikhaylov, T. A. Grigor'yeva, L. N. Zhinkin, N. I. Grigor'yev, Z. A. Katsnel'son, and others. In their reports they developed theories on the determination of tissues and strengthened the natural-science basis of philosophical determinism, to which V. I. Lenin had devoted a definite place in his book "Materialism and Empiriocriticism."

Thus, the V. I. Lenin's book is helping us in carrying out the struggle against various form of idealism -- taking into account the peculiarities of the ideological struggle at the modern stage of the development of philosophy. These

peculiarities are as follows:

1. Revisionism and reformism, which strive to prove the "obsolescence" of the traditional division of philosophy into materialism and idealism, and the necessity of their reconciliation (for instance, the attempt to "reconcile" the physiological teaching of I. P. Pavlov and Freudism).

2. The presentation of idealism in the guise of dialectical materialism (for instance, the teleological dialectics of Eigar).

3. The penetration of Marxist-Leninist ideology into the consciousness of the foremost western scientists and the ideological split among bourgeois scientists, in accordance with the class stratification of capitalist society.

These special features of the ideological struggle must also determine the attitude of Soviet scientists in their struggle for a progressive materialistic science. Here too, we can be helped by the example of V. I. Lenin, who, put into practice the Party-consciousness in philosophy. Lenin always aimed at eliciting which tendency -- the materialistic or the idealistic -- predominated in a given inconsistent scientist. For example, physicist Gertz was basically a materialist, but he also revealed some idealistic tendencies, and some idealists, seizing on these tendencies, tried to enroll the author in their camp. V. I. Lenin defended Gertz and showed that there were no grounds for considering him as an idealist. This is an example of a flexible and subtle employment of the principle of Party-consciousness in philosophy which guided V. I. Lenin in the strengthening of materialistic positions and in winning scientists over to his side.

Therefore, Soviet scientists in their struggle against idealism in science, must:

1. On the one hand, reveal the idealistic tendencies in the ideology of a given philosophically inconsistent scientist, and, on the other hand, try to separate him from the idealist camp and to attract him to the materialist side. By finding only idealism in the works of foreign authors and by seeing nothing positive in them, one could easily arrive at the negation of modern science in the capitalist countries. Such a conclusion does not correspond to a reality.

2. Support everything progressive in the fight against reaction.

3. Exposed various false bourgeois doctrines.

Despite the fact that the basic principle of the politics of the Soviet people is peaceful coexistence with all

capitalist countries, the ideological struggle in philosophy and science remains in force.

V. I. Lenin's book is of immense help in this struggle, and remains a militant and relevant weapon in the hands of Marxists.

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